

CLAIMS

1 1. A computer-implemented method for dynamically allocating a device to a
2 bus, the method comprising:
3 monitoring activity on a plurality of buses to determine an imbalance;
4 responsive to a determined imbalance:
5 automatically selecting a device from a plurality of devices to move
6 from a first of the plurality of buses to a second of the plurality
7 of buses; and
8 configuring the device to communicate via the second bus.

1 2. The computer-implemented method of claim 1 wherein the determined
2 imbalance includes greater activity on the first bus than on the second bus.

1 3. The computer-implemented method of claim 1 wherein the determined
2 imbalance includes greater power consumption by the first bus than the second bus.

1 4. The method of claim 1 wherein automatically selecting the device to move
2 from the first bus to the second bus further comprises:
3 determining which device of the plurality of devices is generating a least
4 amount of traffic on the bus; and
5 selecting the determined device.

1 5. The method of claim 1 wherein automatically selecting the device to move
2 from the first bus to the second bus further comprises:
3 determining a ranking for each device according to an amount of traffic on the
4 bus generated by the device; and

5 selecting according to the rankings a device to move from the first bus to the
6 second bus to reduce the imbalance.

1 6. A computer-implemented method for dynamically allocating a device to a
2 bus, the method comprising:

3 receiving a threshold imbalance level;

4 monitoring activity on a plurality of buses to determine an imbalance;

5 responsive to the determined imbalance exceeding the threshold imbalance
6 level:

7 automatically selecting a device to move from a first of the plurality
8 of buses to a second of the plurality of buses; and
9 configuring the device to communicate via the second bus.

1 7. The method of claim 6 wherein the threshold imbalance level is associated
2 with a hardware profile.

1 8. The method of claim 7 wherein the hardware profile is a portable computer
2 profile.

1 9. The method of claim 7 wherein the hardware profile is a desktop computer
2 profile.

1 10. A computer-implemented method for dynamically allocating a device to a
2 bus, the method comprising:

3 determining a performance preference;

4 responsive to the performance preference indicating a preference for decreased
5 power usage:

6 automatically selecting a device to move from a first of a plurality of
7 buses to a second of the plurality of buses;
8 configuring the device to communicate via the second bus;
9 responsive to the performance preference indicating a preference for increased
10 efficiency:
11 automatically selecting a device to move from the second of the
12 plurality of buses to the first of the plurality of buses; and
13 configuring the device to communicate via the first bus;

1 11. The computer-implemented method of claim 10 further comprising:
2 responsive to the performance preference indicating a preference for decreased
3 power usage:
4 configuring each device on the first bus to communicate via the
5 second bus; and
6 causing the first bus to become idle.

1 12. A computer bus management system comprising:
2 a first bus source for transmitting data to a device;
3 a second bus source for transmitting information to a device;
4 a first bus, coupled to the first bus source, for providing a communication
5 pathway for the data transmitted by the first bus source;
6 a second bus, coupled to the second bus source, for providing a
7 communication pathway for the data transmitted by the second bus source;
8 a switch, coupled to the first bus and the second bus and to a device, for
9 connecting one of the buses to the device; and
10 bus select logic, coupled to the switch, for causing the switch to connect one of
11 the buses to a device in response to performance criteria.